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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,609	07/01/2004	Koichi Shinkai	Q81987	4319
65565 7590 01/24/2008 SUGHRUE-265550 2100 PENNSYLVANIA AVE. NW WASHINGTON, DC 20037-3213			EXAMINER RIVAS, SALVADOR E	
			ART UNIT 2619	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/500,609

Applicant(s)

SHINKAI, KOICHI

Examiner

Salvador E. Rivas

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Action is in response to Applicant's amendments filed on November 09, 2007. **Claims 1 and 2** are now pending in the present application. **This Action is made non-final.**

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **claims 1 and 2**, the phrase "... *turning back its sending request output...*" and "... *time respectively varying ...*" renders the claim indefinite. For instance, from the way the phrase "... *turning back its sending request output ...*" (page 2 Lines 8-9 and Lines 14-15) are applied it is not clear what the phrase is being referred to by the applicant. Is the "request output" signal split and modified into separate distinct signals in order to "turn back" a signal? Or is the "request output" signal copied prior to being sent out therefore allowing for the signal to be "turn back" within the transmitter as well as being able to send out the signal? Also, the phrase "... *time respectively varying...*" (page 2 Lines 3 and page 3 Lines 1) as applied never does the applicant define what the concept of "time" has to do with respect to the two modems in the system as described by the Applicant. What is "time respectively varying" the connection between the two modems? Is the request signal "time respectively varying"?

Therefore the addition of the words "turning back" and "time" to an otherwise definite expression extends the scope of the expression so as to render it indefinite (*Ex parte Copenhagen*, 109 USPQ 118 (Bd. App. 1955)). See MPEP §2173.05 (b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Betts et al. (U.S. Patent # 4,669,090)** in view of **Scott (U.S. Patent # 5,396,486)** and further in view of **Ito (U.S. Patent # 4,459,589)**.

Regarding claim 1, **Betts et al.** teach a half-duplex communication control method (Column 1 Lines 7-8 "...a modem which may be operated in a half-duplex mode...") in which a first device and a second device are connected by two signal lines (Fig.1, Column 3 Lines 66-68 - Column 4 Line 1, "a local modem 100 is connected to a remote modem 200 through a two-wire communication channel 300 for exchanging data

between DTE's (data terminal equipments) 400 and 500..."), half-duplex communication in one-to-one correspondence is conducted (Column 1 Lines 7-8 "...a modem which may be operated in a half-duplex mode..."), also turns back its sending request output inside the first device to check a communicable state as a sending request input inside the first device (Column 4 Lines 26-28, "...the circuit 26 sends a CTS (clear-to-send) signal back to DTE 400 indicating that it is ready to accept data."), and also turns back its sending permission output inside the second device to check a communicable state as a sending permission input inside the second device (same procedure applied from Column 4 Lines 26-28, except to where the procedure takes place in Fig. 1@ 200, 500). However, Betts et al. fails to teach each of the two devices notifies the opponent device of a state as to whether each device is communicable, wherein the first device outputs a sending request output for providing notification of a state of a communication request from the first device to the second device as a sending request signal using an open collector buffer, and if the second device is receivable with respect to the sending request signal sent from the first device, the second device outputs a sending permission output for providing notification of a communicable state from the second device to the first device as a sending permission signal using an open collector buffer.

Scott teaches a call establishment process between two modems (Fig. 1 @ 100,300) that includes modem handshaking and training in order to establish a data connection (Fig.2, Column 4, Lines 24-28). The modem handshaking process allows for said two modems (Fig. 1 @ 100,300) to dynamically negotiation sets parameters of a communications channel established between said two modems prior to establishing a

normal communication over the channel. It would have been obvious to one of ordinary skill in the art to combine Scott with Betts et al. for the purpose of initializing and establishing a data connection between two devices using half-duplex communication. The motivation to combine is to efficiently establish a transmit data path.

However Scott and Betts et al. fail to teach an open collector buffer in each of its devices. Ito uses an open collector output type buffer between the output of a cable receiver and the common line to prevent any disruptions to the data connection (Column 3, Lines 30-34 and 37-39). It would have been obvious to one of ordinary skill in the art to combine Ito with Scott and Betts et al. for the purpose of enabling a data connection between two devices using half-duplex communication. The motivation to combine is to efficiently maintain a transmit data path.

Regarding **claim 2**, and **as applied to claim 1**, Betts et al., as modified by Scott and Ito, teach a half-duplex communication control method (Column 1 Lines 7-8 "...a modem which may be operated in a half-duplex mode...") wherein with respect to time which elapses before outputting another sending request output if outputting sending request outputs simultaneously from two devices ("... each modem transmits a long preamble to establish signal level, carrier frequency/phase, timing frequency/phase, adaptive equalizer setting, and de-randomizer setting." Column 1 Lines 59-62), time respectively varying with respect to the two devices is randomly determined by a program of a microcomputer (Fig.2, Column 2 Lines 63-66, "A single microprocessor is used to implement transmit and receive functions and any memory locations in the processor can be accessed by either transmitter or receiver.").

Response to Arguments

4. Applicant's arguments filed on November 09, 2007 have been fully considered but they are not persuasive.

Regarding **claim 1**, Applicant argues that " none of applied references ... discloses or suggests at least, "the first device outputting a sending request output for providing notification of a state of a communication request from the first device to the second device as a sending request signal using an open collector buffer and also turning back its sending request output inside the first device to check a communicable state inside the first device," and "if the second device is receivable with respect to the sending request signal sent from the first device, the second device outputting a sending permission output for providing notification of a communicable state from the second device to the first device as a sending permission signal using an open collector buffer and also turning back its sending permission output inside the second device to check a communicable state inside the second device," ".

Examiner respectfully disagrees with Applicant's arguments for claim 1 since Scott teaches a call establishment process between two modems (Fig. 1 @ 100,300) that includes modem handshaking and training in order to establish a data connection (Fig.2, Column 4, Lines 24-28). Also, Betts et al. teaches a system for establishing a data connection between two modems using half duplex communications wherein "...the circuit 26 sends a CTS (clear-to-send) signal back to DTE 400 indicating that it is ready to accept data." (Column 4 Lines 26-28) and also turns back its sending permission output inside the second device to check a communicable state as a

sending permission input inside the second device (same procedure applied from Column 4 Lines 26-28, except to where the procedure takes place in Fig. 1@ 200, 500).

However Scott and Betts et al. fail to teach an open collector buffer in each of its devices. Ito uses an open collector output type buffer between the output of a cable receiver and the common line to prevent any disruptions to the data connection (Column 3, Lines 30-34 and 37-39). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the open buffer collector of Ito with the systems of Scott and Betts et al. for the purpose of enabling a data connection between two devices using half-duplex communication.

Regarding **claim 2**, Applicant argues that "none of applied references ... discloses or suggests at least, "wherein with respect to time which elapses before outputting another sending request output if outputting sending request outputs simultaneously from two devices, time respectively varying with respect to the two devices is randomly determined by a program of a microcomputer,"".

Examiner respectfully disagrees with Applicant's arguments for claim 2 since Betts et al., as modified by Scott and Ito, teach a system that contains "A single microprocessor is used to implement transmit and receive functions and any memory locations in the processor can be accessed by either transmitter or receiver." (Fig.2, Column 2 Lines 63-66)

Conclusion

5. **THIS ACTION IS MADE NON-FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or early communications from the Examiner should be directed to Salvador E. Rivas whose telephone number is (571)

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270-1784. The examiner can normally be reached on Monday-Friday from 7:00AM to 3:30PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Huy D. Vu can be reached on (571) 272- 3155. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Salvador E. Rivas
S.E.R./ser

January 22, 2008



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